

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of ) Attorney Docket No.: **PLAYS0012**  
James A. MUTTON et al. )  
Serial No.: 09/826,147 ) Confirmation No. 3992  
Filed: April 5, 2001 ) Group Art Unit: 2153  
For: DISTRIBUTED LINK PROCESSING )  
SYSTEM FOR DELIVERING )  
APPLICATION AND MULTI-MEDIA )  
CONTENT ON THE INTERNET ) Examiner: Philip S. SCUDERI

**DECLARATION UNDER RULE 132**

**MAIL STOP:**

U.S. Patent and Trademark Office  
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401 Dulany Street  
Alexandria, VA 22314

Sir:

1. I, Herve Carruzzo, the undersigned, state that I am an expert in the field of the above-captioned application as supported by a copy of my Curriculum Vitae. I am presently employed by Internap Network Services Corporation, which is the present assignee of the above-captioned application.

2. I am familiar with the above captioned application and claims. In this declaration, I submit my testimony as an expert in the field of the present invention regarding the scope and content of subject matter disclosed by U.S. Patent Application Publication No. US 2002/0120577 A1 (hereafter, the Hans Publication), and regarding the meaning of the terms "link processing server," "link encoded web page," and "link encoded electronic mail

messages" as these terms would be understood by a person of ordinary skill in the art after reading the specification as originally filed in U.S. Patent Application No. 09/826,147.

Furthermore, I submit my expert opinion that a person of ordinary skill in the art, upon reading the specification of the above-captioned application, would have realized that Applicants had in their possession an embodiment that includes "computer program code stored on a computer."

3. In rendering my opinion, I have considered (i) the specification, claims and drawings of the above-captioned application as originally filed (hereafter, collectively the "'147 application"), (ii) the claims as amended by Amendment (F), (iii) the Hans Publication (of record), and (iv) the Office Action, mailed January 15, 2008.

**General Testimony Regarding Applicants' Invention**

4. It is my opinion, having read the disclosure of the above-captioned application and claims, that the present invention represents an advance compared to prior art in the simplicity it brings to the management of streaming video content in web pages. To appreciate the ease of use it brings to the end user, it is useful to review "the old way of doing things".

5. The specification of the '147 Application discusses the state of the art on page 1, line 11, to page 8, line 2. The presently claimed invention is, in my opinion, designed to provide multiple advantages over the prior art, including eliminating the need to create and upload reference files for each streaming media file, which was a burdensome disadvantage associated with prior art systems and methods for

streaming content (See Specification of the '147 Application, at 10, 13-23). Instead, the present invention uses a link processing server and encoded hyperlinks to stream content without having to create, upload and deploy reference files (See Specification of the '147 Application, at 10, line 24, to 11, line 6). While the Examiner contends that the present invention pertains to automating a previously known manual process of creating and uploading reference files (Office Action, mailed January 15, 2008, at 5, line 20, to 6, line 3), on this point the Examiner is misunderstanding the nature of the invention. A person of ordinary skill in the art, in my opinion, would know that using a link processing server and encoded hyperlinks comprising reference information to stream content is completely different from creating, uploading and deploying reference files because (1) reference files are not employed by the present invention (See Specification of the '147 Application, at 42, lines 3-4), (2) in accordance with the present invention the hyperlinks themselves can contain reference information, and other information, as well as act as a key that allows the link processing server to associate the appropriate reference information, and (3) no processing of hyperlinks is present in the normal handling of hyperlinks by web sites beyond that provided by the web server itself.

6. When it comes to streaming media content, there are multiple kinds of media files that may be transmitted. Each media type (mp3, Real, Windows Media, etc..) works slightly differently, as a person of ordinary skill in the art would know, and thus must be managed slightly differently as well. In most cases, full control of the player that will render the streaming media is achieved through the use of a "reference file"

as described on page 39, line 13, to page 42, line 21, of the '147 Application. In the example provided by the '147 Application, page 39, line 13, to page 42, line 21, using prior art technology a person who wants to make a video clip available on a web site for streaming to players has to prepare the video file for streaming by encoding it so it can be played back by a second party's player. Because there are multiple player formats available, such as Microsoft's Windows Media™ Player (hereafter, "Windows Player"), RealNetworks RealPlayer™ (hereafter, "RealPlayer Player"), and Apple's QuickTime™ Player (hereafter, "QuickTime Player"), preparing the video clip involves encoding three versions of the video file so there is a "wma" file for uploading to a Windows server, a "rm" file for uploading to a RealMedia server, and a "mov" file for uploading to a QuickTime server. Correspondingly, three types of reference files, namely an "asx" file, a "ram" file, and a "mov" file, respectively, have to be created and uploaded to the web server hosting the web site. By using encoded hyperlinks and a link processing server, Applicants' invention automatically generates information on the server side based on the encoding of the hyperlinks with reference information rather than requiring the web developer to create and upload reference files on the web site ('147 Application, at 44, lines 13-19).

7. Based on my understanding of the subject matter described and claimed by the '147 Application, the present invention generates the same information required for streaming in different formats, such as for Windows Player, RealTime Player, and QuickTime Player, but it does so on the fly using a link processing server and encoded hyperlinks (the link processing server uses the information in the hyperlinks

themselves during the reference information generation process) rather than on the web server using reference files, which have to be manually created and uploaded. As would have been known by persons of ordinary skill in the art at the time the invention was made, conventional hyperlinks, as would be used directly in a web page or an email message cannot link directly to the media itself and must point to a reference file instead. As would be immediately understood by a person of ordinary skill in the art, in my opinion, the present invention employs completely different computing techniques than those of the prior art.

8. To further illustrate my point, consider a web page (let's call it "WP") where streaming content needs to be accessible therefrom. The first step, according to the prior art, is to place the appropriate links in the web page. The links have the conventional form of hyperlinks used to refer one web page to another. In this case, the hyperlink refers to a "reference file". When the page loads, or the user clicks on the link, the content of the reference file is downloaded to the browser, which passes it to the streaming media player that will render the content. This reference file contains a number of controllable parameters, including the actual location of the streaming media server and file itself, most often in the form of a hyperlink looking entry. This reference file resides together with the web page WP on the web server of the user (but could conceivably reside on another web server). We therefore have two sources of complexity when it comes to adding streaming content to a web page (as opposed to normal html content understood natively by the user's browser): (1) the necessity to deal with multiple formats that are set up slightly differently as discussed

above, and (2) the need to both maintain the reference file as well as the code in the web page itself. This complexity is necessitated by the fact that direct hyperlinking cannot be made directly to the media itself (unlike a picture stored in a "gif" format, for example) because browsers do not natively understand streaming media protocols.

9. The present invention, however, completely does away with the reference file. In effect, the equivalent of the content of the reference file is generated on the fly by the "link processing server" (previously referred to in the claims as the "linking server"), based on the user's preference (i.e., the type of media player the user is using, the size of the player window, etc...) and the type of media requested. Therefore, instead of two normal hyperlinks that the user needs to maintain, namely in the web page and in the reference file, as required by the prior art method, the present invention only has a single (encoded) hyperlink that needs to be maintained. The "link processing server" acts as a layer of indirection that allows the unification of the handling of different streaming format at the web page level as well as the elimination of the reference file as a piece of content managed by the user. A different way of stating the same is to consider that Applicants' invention essentially brings the handling of streaming content in a web page to the same level of simplicity that embedding an image requires: a single hyperlink. This was not the case with the prior art.

**The Hans Publication**

10. In a nutshell, it is my opinion that the Hans Publication is centered around managing digital content and more specifically rights to access, to change access (via, e.g. the purchase of a license) and management of licensed and unlicensed content by a user. The system is described at the conceptual level. While each component can be collapsed into a single entity, there are three main systems: the "Content Manager Node" (11), the "Content Provider Nodes" (16), (i.e. where the digital content is actually stored, and which could be controlled by the user himself), and the end user node (12) wishing to access/manage content as shown in Figure 3. Figure 3 is reproduced below for reference.

11. In so far as the transmission of the digital content is concerned, Hans states in ¶ [0027] that

"In addition, format manager 50 is configured to transmit the requested digital content as a complete file or in a streaming file format. With respect to digital content stored at a remote content provider, access manager 42 may consult a digital content index 48 that identifies remote network node addresses at which the digital content is stored and authorize transmission of the requested digital content from the remote network node to the user. The content provider may be configured to format the digital content in accordance with a user-specified format that is received from access manager 42." (emphasis in the original).

In other words, in my opinion the Hans Publication does not specify in any way the details of the content's retrieval process. Therefore, it is reasonable, in my opinion, to construe this content retrieval process in accordance with streaming techniques

known by the person of ordinary skill in the art at the time U.S. Patent Application No. 09/795,990 was filed on February 21, 2001, which published on August 29, 2002 as the Hans Publication.

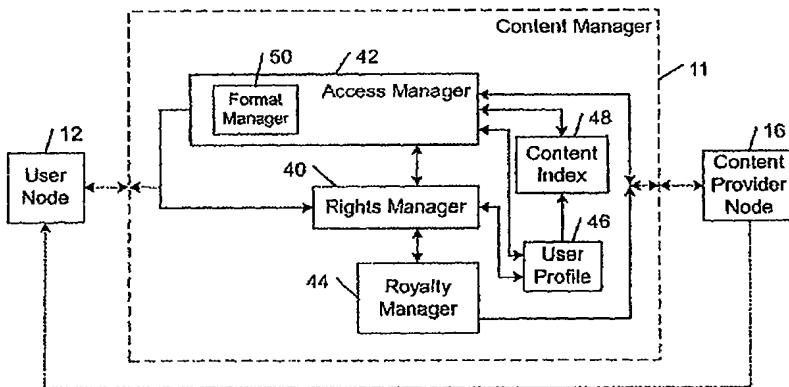


Figure 3 of the Hans Publication

12. In this case, based on my knowledge and experience in the art, streaming techniques on or before February 21, 2001 were limited to techniques employing the deployment of reference files and the concomitant double link management burden. Based on my knowledge and experience in the art, streaming technology did not employ encoded hyperlinks comprising reference information and link processing servers. Therefore, it is my expert opinion that the streaming method disclosed by the Hans Publication inherently employs the deployment of one or more reference files previously uploaded to the web server because this was the technology used for streaming at the time (i.e., on or before February 21, 2001).

13. With respect to independent claim 1 of the '147 Application, as amended by

Amendment (F), it is my opinion that the Hans Publication cannot anticipate the limitation of claim 1 wherein the link processing server

“translates first reference information from one or more of the encoded hyperlinks to second reference information that enables one or more formats to stream without having to deploy from a web server one or more reference files containing the second reference information, wherein the second reference information comprises first reference information and a location where the multi-media content is stored”

for multiple reasons. First, the system disclosed by the Hans Publication does not teach, or suggest, a “link processing server” as recited in claim 1 and as this term would be understood by a person of ordinary skill in the art. Second, the Hans Publication does not teach, or suggest, “translat[ing] first reference information from one or more of the encoded hyperlinks to second reference information” to stream content as recited by claim 1. Thirdly, the Hans Publication does not teach, or suggest, streaming content “without having to deploy...one or more reference files containing the second reference information, wherein the second reference information comprises first reference information and a location where the multi-media content is stored” as recited by claim 1. While I explicitly opine with respect to claim 1 of the ‘147 Application, as amended by Amendment (F), I believe that my opinion pertains to all of the independent claims of the ‘147 Application.

**Claim Interpretation: Link Processing Server**

14. In my opinion, a person of ordinary skill in the art would understand that a “link processing server,” as this term is used to define the claimed invention, is a server that processes links by analyzing hyperlinks, extracting information from such links, e.g., based on a convention for embedding information, and returns a response based on the result of

such processing (See, e.g., Specification of the '147 Application, at 16, lines 15-22). In my opinion, and based on my knowledge and experience in the art, a person of ordinary skill in the art would know that hyperlinks themselves contain information regarding location, and, by convention usually interpreted by the web browser, information about file types (e.g., html, .gif, etc....). Thus, in my opinion, a person of ordinary skill in the art would construe a "link processing server" to be a component of the system that extends this capability by allowing further processing of the link to extract extended information, and it does so on the server side of the system.

**Claim Interpretation: Link Encoded**

15. The Examiner contends that the Hans Publication, at ¶ [0026], "inherently" discloses a "link encoded web page" (Office Action, dated January 15, 2008, at 5, lines 4-7). Whether the Examiner is correct on this point is a matter of debate. However, I believe a person of ordinary skill in the art would understand from Figure 6 of Applicants' original disclosure that a "link encoded web page" (606) includes one or more hyperlinks (616). In my opinion, link encoded web pages was not new technology at the time the invention was made. However, the novelty here is, in my opinion, in embedding "first reference information" (i.e., information specifying content and the format associated therewith) in the hyperlink, which is translated by the link processing server to "second reference information" wherein the "second reference information" is substantially the same information that is contained in the reference files of the prior art streaming methods. Consequently, the hyperlink (which, according to the present invention is encoded with first reference information other than the

conventional location encoded therein) is all that is needed to link streaming media in a web page from the web developer's standpoint regardless of streaming media type because the need for reference files has been circumvented. This is not the case in the prior art, which relies upon the deployment of one or more reference files in order to stream content.

16. Based on my personal knowledge and experience in the art, prior to Applicants' invention linking to streaming media was not directly possible—the hyperlink had to be to an intermediate file, namely, to the reference file. Therefore, the Hans Publication cannot teach, or suggest, a "link encoded web page includes one or more encoded hyperlinks comprising first reference information" as recited by the presently claimed invention for the reasons discussed above. Link encoded web pages that include one or more encoded hyperlinks comprising reference information (i.e., reference information encoded in the hyperlinks) makes it possible for the server side of the system to process the hyperlinks, and the reference information encoded therein, thereby eliminating the need to maintain cumbersome reference files.

17. With respect to the claim terms "link encoded web page" and "link encoded electronic mail messages," it is my opinion that a person of ordinary skill in the art would interpret these phrases, respectively, to mean a "web page encoded with a link" such as a hyperlink, for example, and "electronic mail messages encoded with a link" such as a hyperlink as described on page 15, lines 24-27, and by Figure 6, of the '147 Application. I do not believe that a person of ordinary skill in the art would construe these terms to mean that the web page and/or the electronic mail messages are encoded with an "address" as the "link." Hyperlinks, as they were conventionally known at the time of Applicants' invention, may have had as their original

intended function to serve as an indicator of location for content, namely as an “address.” In view of Applicants’ specification, hyperlinks should not be construed solely to be location indicators as they can embed additional information, as Applicants have done in the present invention.

**The ‘147 Application Discloses “Computer Program Code Stored On a Computer”**

18. In my opinion, the ‘147 Application discloses an embodiment wherein computer program code is stored on a computer. Specifically, the ‘147 Application, page 36, lines 18-21, explicitly describes an embodiment of the invention including “a computer program stored on a computer.” Therefore, it is my opinion that a person of ordinary skill in the art would instantly realize that Applicants had in their possession at the time the ‘147 Application was filed an embodiment of the invention that includes “computer program code stored on a computer” as recited by claims 72, 74 and 76.

**Summary**

19. It is my opinion, based on the evidence I have considered, that:

- a. the presently claimed invention according to the independent claims of the ‘147 Application, as amended by Amendment (F), pertains to a system and method for streaming content that employs a link processing server and encoded hyperlinks that include reference information encoded therein, and that this new system and method utilizes different techniques and technology from prior art systems and methods for streaming content;

- b. the presently claimed invention according to the independent claims of the '147 Application, as amended by Amendment (F), pertains to a system and method for streaming content that employs a link processing server and encoded hyperlinks including reference information encoded therein, and that this new system and method eliminates the need to create and upload reference files on the web server side; therefore, the present invention is not merely automating a prior art manual method but represents an entirely different method and system for performing the method;
- c. the Hans Publication does not teach, or suggest, any kind of "link processing server" as this term would be understood by a person of ordinary skill in the art who has read the specification of the '147 Application;
- d. the Hans Publication does not teach, or suggest, "translat[ing] first reference information from one or more of the encoded hyperlinks to second reference information that enables one or more formats to stream without having to deploy from a web server one or more reference files..." as this limitation would be understood by a person of ordinary skill in the art who has read the specification of the '147 Application;
- e. the Hans Publication does not teach, or suggest, any "link encoded web pages" and/or "link encoded electronic mail messages" that include "one or more encoded hyperlinks comprising...reference information" as these terms would be understood by a person of ordinary skill in the art who has read the

specification of the '147 Application; and

f. the disclosure of the '147 Application as originally filed adequately describes an embodiment including "computer program code stored on a computer" as recited by claims 72, 74 and 76, and that the written description is sufficient to show a person of ordinary skill in the art that Applicants were in possession of such an embodiment at the time the '147 Application was filed.

20. I declare under penalty of perjury that the foregoing is true and correct, that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements so made are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Signed by,

Date: 7/14/2008



Name: Herve Carruzzo

Title: Software Engineer

## Herve M Carruzzo

<b>Contact</b>	Email: <a href="mailto:hcarruzzo@mac.com">hcarruzzo@mac.com</a> - Office: (404) 302 9708 cell: (404) 441 2424
<b>Objective</b>	A leadership position in a dynamic, technology focused company. The ideal position would involve the management of a technical organization, product development and strategy.
<b>Summary</b>	<ul style="list-style-type: none"> <li>• Excellent management capabilities &amp; operation of geographically distributed groups.</li> <li>• Proven capability to clearly communicate directions and interact with different constituencies to produce results.</li> <li>• Skilled at explaining complex issues in a clear and simple way.</li> <li>• Practical knowledge of C/C++, Java, Perl and high-level design.</li> <li>• Broad knowledge of Mathematics and Statistical Physics. Expert at modeling complex systems.</li> <li>• Fluent in French.</li> </ul>
<b>Experience</b>	<p><b>Internap Network Services</b> <span style="float: right;">Atlanta, GA</span>  <i>August 2006 – Present</i> <span style="float: right;"><i>Sr. Director Software Engineering</i></span></p> <ul style="list-style-type: none"> <li>• Oversee all Core software development, including one of Internap's VPN product as well as the AdService platform. Total team of 22 engineers.</li> <li>• Manage the development of a network appliance to optimize network traffic with revenue of about \$4M in addition to all other products.</li> </ul> <p><b>Internap Network Services</b> <span style="float: right;">Atlanta, GA</span>  <i>August 2002 – August 2006</i> <span style="float: right;"><i>Sr/Manager, Software Engineering Group</i></span></p> <ul style="list-style-type: none"> <li>• Contributed to the successful transition of the Company's headquarters from Seattle, WA to Atlanta, GA</li> <li>• Hired the entire Software Engineering Group in Atlanta – 7 software engineers and 2 Quality Assurance engineers while keeping critical systems operational.</li> <li>• Implemented an Agile Development Methodology with a 3 months release cycle with excellent results.</li> <li>• Manages all aspect of the development of Internap's next generation Intelligent Routing software, including feature set and project direction. This software is a key component to the company's offering, generating over 80 million dollar in annual revenue.</li> </ul> <p><b>Internap Network Services</b> <span style="float: right;">Seatte, WA</span>  <i>July 2001 – August 2002</i> <span style="float: right;"><i>Manager, Software Engineering Group</i></span></p> <ul style="list-style-type: none"> <li>• Managed a group of 8 to 10 software engineers.</li> <li>• Managed the transition to a new IP interfaces data collection system used for billing purpose, covering about 80% of the Company's revenue.</li> <li>• Oversaw the creation of version 4 of Internap's distributed Network Monitoring System, from requirement gathering to the deployment into production.</li> <li>• Oversaw the implementation of AS3, Internap's intelligent routing software, and its deployment in 22 locations for a total of 66 servers.</li> </ul> <p><b>Internap Network Services</b> <span style="float: right;">Seatte, WA</span>  <i>April 2000 – July 2001</i> <span style="float: right;"><i>Software engineer</i></span></p> <ul style="list-style-type: none"> <li>• C++ work on version 3 of the Network Monitoring System (Design and coding).</li> <li>• Wrote the vision and requirements document for version 4 of the Network Monitoring System.</li> <li>• On-call duties for troubleshooting production software systems</li> </ul>

<b>Education</b>	<p>PhD in Theoretical Physics (December 1994, Advisor A.J. Leggett)            University of Illinois at Urbana-Champaign Urbana, IL</p> <p>B.S in Engineering Physics (January 1988)            École Polytechnique fédérale Lausanne, CH</p>
<b>Publications</b>	<ul style="list-style-type: none"> <li>• “Influence of chemical disorder on wavefunctions and optical transition rates in one-dimensional systems” H. Carruzzo, K. Maschke and N. Vandeventer, Journal of Physics C 1, 6633 (1989)</li> <li>• “Nonequilibrium dielectric behavior in glasses at low temperatures: Evidence for interacting defects” Herve M. Carruzzo, Eric R. Grannan and Clare C. Yu, Physical Review B 50, 6685 (1994)</li> <li>• “Absence of a magnetic-field-induced metal-insulator transition in Kondo insulators” Herve M. Carruzzo and Clare C. Yu, Physical Review B 53, 15377 (1996)</li> <li>• “Effect of dispersion in the f band of the one-dimensional Anderson lattice model”, M. Guerrero and Herve M. Carruzzo, Physical Review B 54, 16562 (1996)</li> <li>• “Interacting defects in glasses” H.M. Carruzzo, E.R. Grannan C.C. Yu, Physica B 219&amp;220, 311 (1996)</li> <li>• “First-order pre-melting transition of vortex lattices” Herve M. Carruzzo and Clare C. Yu, Philosophical Magazine B 77, 1001 (1998)</li> <li>• “Viscoelasticity and surface tension at the defect-induced first-order melting transition of a vortex lattice” Herve M Carruzzo and Clare C. Yu, Physical Review B 61, 1521 (2000)</li> <li>• “Frequency Dependence and Equilibration of the Specific Heat of Glass Forming Liquids” Clare C. Yu and Herve M Carruzzo, Phys. Rev. E 69, 051201 (2004)</li> </ul>